

US Army Medical Research and Materiel

Technology Available for Licensing



Features and advantages:

- Could improve the reliability and accuracy of real-time blood pressure readings
- Could lengthen the lifespan of the catheter by protecting it at the skin insertion site
- Provides a more secure means of attaching the catheter to the patient

Orthogonal Arterial Catheter

This invention provides a catheter capable of being inserted into a variety of veins and arteries by medical personnel to monitor a patient's blood pressure in real-time or to take regular blood samples from the patient. The catheter includes a gently curved hub and a cannula running through the hub.

The hub provides the structure to prevent the cannula from kinking on itself or shearing from a fluid line. The cannula provides the conduit in which blood from the patient resides. The hub can act as an indicator as to when the cannula has been inserted sufficiently, i.e., when the hub abuts the patient's skin. The hub includes a passageway that runs from the connector to an exit point through which the cannula travels. The passageway includes a gentle bend to reduce or prevent turbulence. The cannula extends from the hub such that it may be inserted into a patient's blood vessel. The hub also provides a port through which to pass a needle and an insertion wire into the cannula and a connector at one end of the cannula to attach to medical equipment. The port also provides access for inserting a needle or syringe to withdraw blood from the cannula for testing without taking blood directly from one of the patient's blood vessels. Either the hub or the cannula can include a luer-lock connector that can be connected to a fluid or pressure line.

Patent Status

The invention addresses the current problem of securing catheters to patients. The hub may be made with attachment sites for suturing to the patient. The invention may also allow medical personnel to obtain real-time, accurate blood pressure measurements, if attached to an ISR 99-22 transducer.

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Point of Contact

Dr. Paul C. Mele
Director, Office of Research and Technology Applications
USAMRMC, MCMR-ZA-J
504 Scott St., Ft. Detrick, MD 21702-5012
E-mail: usamrmcorta@amedd.army.mil
Voice: 301-619-6664/2065/7219 Fax: 301-619-5034

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